IMPACT OF AUTOMATIC MEETERING INFRASTRUCTURE ON MULTIUTILITY BUSINESS MODELS

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1. Purpose

In the last decade energy utility sector has undergone major changes in terms of liberalization, increased competition, efforts in improving energy efficiency, and in new technological solution such as smart meter and grid operations. There are new information technology solutions (e.g. Advanced Metering Infrastructure /AMI) on the horizon that will not only introduce new technical and organizational concepts, but have a very strong potential to radically change modus operandi of utility companies.

Coordinated, multi-utility programs can help accelerate the development and market success of new high-efficiency technologies. These programs provide opportunities for researchers to develop new high-efficiency equipment for manufacturers to sell this new equipment with utility help, for utilities to increase the amount of energy they save from incentive programs, and for consumers to benefit from lower utility bills and a cleaner environment (as energy is reduced, pollutants produced at power plants decline).

2. Approach

In order for programs to succeed, several elements are necessary. First, the technology improvements being targeted must result in substantial energy savings. A large amount of effort is needed to organize a multi-utility programs, these efforts are justified only when the potential rewards are significant. Second, savings must be available at a reasonable cost. Utilities can only offer incentive programs when the cost per unit of energy saved is less than the cost to build and operate power plants. Third, the technologies being promoted must be attractive to consumers. Energy savings can help attract consumer attention, but consumers also want to be assured that products will provide acceptable, if not superior performance.

The era of electromechanical meters is slowly coming to an end since they are being replaced by automatic meter reading (AMR) and AMI. Today, AMI refers to Information Systems (IS) that measure, collect and analyze usage from different utility meters (electricity, gas, water, distance heating). AMI connects meters and allows information flow along utility supply chain between customers, suppliers, utility companies and service providers. This is a prerequisite for

dynamic demand response solutions, products and services that directly correlate to legislation framework since the system assist a change in the customers' level of energy usage. The change in energy usage reflects in consumption pattern change of every individual customer due to dynamic retail pricing, incentives designed to encourage lower energy usage at times of peak demand periods, lower wholesale pricing at times of energy abundance (i.e. wind generated electricity).

3. Results/Findings

Apart from the technical perspective, AMI can be divided into technical and commercial subsystem from business perspective. In addition to providing bidirectional communication and higher-quality data, AMI must be able to manage the exponential increase in the volume of meter data expected to result from tie-of-use billing mandates. This requires not only the importation of interval data , but also greater billing and invoicing transparency .including the ability to calculate and access individual consumption patterns. Utilities are looking to AMI to support flexible customer contracts and enable the adaptability required to effectively respond to pricing-structure changes due to an evolving regulatory framework. Due to AMI potentials, utility supply chains are facing:

- Multi-commodities, delivering several products or services to the customer
- Multi-jurisdictions, supply chains spreading across several jurisdictions,
- Multi-tariffs, as a result of dynamic pricing and multi-commodities.

4. Conclusions

In the future, utility organizations will have to put significantl more effort into customer retention programs: CRM is a strategic element for utility companies. From the operational point of view, CRM represents combination of policies and processes implemented by an organization to unify its customer interaction and provide a means to track customer information. AMI is going to support utility organizations with a lot of data on consumption and utility organizations will have to adopt appropriate CRM strategy to foster the benefits.

Valuing these technologies requires from the utility a radical change in its operations involving, not only technical and business processes, but also the organizational structure and the people. In this transformation, the change management appears as a key concept needed to remove the internal barriers and to generate the external competitive advantage.